

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: Carl Knudsen

Group Art Unit: 2431

Serial No.: 10/538,457

Examiner: Abrishamkar, Kaveh

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For: TAMPER RESISTANT PACKAGING AND APPROACH

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REPLY BRIEF UNDER 37 C.F.R. § 41.41(a)

This is an appeal to the Board of Patent Appeals and Interferences from the decision of the Examiner dated December 2, 2009, which finally rejected claims 1-20 in the above-identified application. The Office date of receipt of Appellant's Notice of Appeal was March 2, 2010. An Appeal Brief was filed on April 30, 2010. This Reply Brief is in response to the Examiner's Answer dated July 16, 2010. This Reply Brief is hereby submitted pursuant to 37 C.F.R. § 41.41(a).

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## **I. STATUS OF CLAIMS**

Claims 1-20 were originally filed on June 10, 2005. In a preliminary amendment filed on June 10, 2005, claims 1-3 were amended. In response to the Office Action of May 28, 2009, claim 2 was canceled and claims 1 and 16 were amended. In response to the Final Office Action of December 2, 2009, claims 3 and 19 were amended. A Notice of Appeal was filed on March 2, 2010 and an Appeal Brief was filed on April 30, 2010.

Claims 1, 8-12, 15-17, and 19-20 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Kommerling et al. (U.S. Pat. No. 7,005,733, hereinafter Kommerling). Claims 1, 3-7, and 14 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Sano (JP 3084959 A) in view of Kommerling. Claim 13 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kommerling in view of Fujiki et al. (JP 7209019 A, hereinafter Fujiki). Claims 17-18 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kommerling in view of Double et al. (U.S. Pat. No. 5,129,629, hereinafter Double).

This Appeal is made with regard to pending claims 1 and 3-20.

## **II. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

- A. Whether claims 1, 8-12, 15-17, and 19-20 are anticipated by Kommerling under 35 U.S.C. § 102(e).
- B. Whether claims 1, 3-7 and 14 are patentable over the combination of Sano and Kommerling under 35 U.S.C. § 103(a).
- C. Whether claim 13 is patentable over the combination of Kommerling and Fujiki under 35 U.S.C. § 103(a).
- D. Whether claims 17-18 are patentable over the combination of Kommerling and Double under 35 U.S.C. § 103(a).

### **III. ARGUMENT**

For the purposes of this appeal, claims 1, 8-12, 15-17, and 19-20 are argued together as a group for purposes of the question of anticipation by Kommerling under 35 U.S.C. § 102(e). Claims 1, 3-7 and 14 are argued together as a separate group for purposes of the question of patentability over the combination of Sano and Kommerling under 35 U.S.C. § 103(a). Claim 13 is argued separately for purposes of the question of patentability over the combination of Kommerling and Fujiki under 35 U.S.C. § 103(a). Claims 17-18 are argued together as a separate group for purposes of the question of patentability over the combination of Kommerling and Double under 35 U.S.C. § 103(a).

A. Claims 1, 8-12, 15-17, and 19-20 are not anticipated by Kommerling

For reference, in the Appeal Brief filed previously, Appellant specifically argued that claim 1 is not anticipated by Kommerling because Kommerling does not teach “in response to a change in the magnetic state, to detect that the package has been tampered with,” as recited in claim 1. The Examiner, on pages 11-12 of the Examiner’s Answer (“Response to Argument” section), has attempted to address the arguments presented in the Applicant’s Appeal Brief with respect to the Section 102 rejection of claim 1. The response in the Examiner’s Answer states that without the step of detecting tampering, the circuit of Kommerling would have no indication of when to block access to the key. However, Appellant respectfully submits that Kommerling does in fact not have any indication of when to block access to the key. The key is only used to attempt to decrypt data in the memory 110 of Kommerling when a CPU 100 requests access to the memory (Kommerling, Fig. 1A, col. 6, lines 4-16). However, access could be gained to data in the memory 110 at the time of tampering without the circuit of Kommerling being able to detect the access to the memory if no CPU 100 request is made. In fact, Kommerling does not envisage detecting tampering of the encapsulation, because the data stored in the memory 110 is encrypted and thus there is no need to detect tampering. (Kommerling, col. 6, lines 17-23). Therefore, Appellant respectfully maintains that claim 1 is not anticipated by Kommerling because Kommerling does not teach all of the limitations of the claim.

B. Claims 1, 3-7 and 14 are patentable over the combination of Sano and Kommerling

For reference, in the Appeal Brief filed previously, Appellant specifically argued that the rejection of claim 1 is improper for at least two reasons. First, the combination of references does not teach detecting that the package has been tampered with in response to a change in the magnetic state. Second, the rejection of claim 1 is improper because the Examiner does not establish a *prima facie* rejection for claim 1. In particular, the proposed combination of Sano and Kommerling is improper because Sano teaches away from the suggested modification. Also, the proposed combination of Sano and Kommerling is improper because the proposed modification of Sano with the teachings of Kommerling would render the device of Sano unsatisfactory for its intended purpose.

1. The combination of references does not teach detecting that the package has been tampered with in response to a change in the magnetic state

Appellant maintains that claim 1 is patentable over the combination of Sano and Kommerling because the combination of references does not teach detecting that the package has been tampered with in response to a change in the magnetic state.

The Final Office Action admits that Sano does not teach a plurality of magnetically-responsive circuit nodes and a package adapted to inhibit access to the integrated circuit device and including a plurality of magnetized particles therein. Further, the Final Office Action admits that Sano does not teach detecting tampering in response to a change in the detected magnetic field (Final Office Action, page 8). The Final Office Action cites Kommerling as teaching an integrated circuit having Hall effect sensors covering all circuit-containing areas and an encapsulation surrounding a device substrate on both sides and comprising an epoxy resin matrix. However, Appellant respectfully asserts that Kommerling also fails to teach detecting tampering in response to a change in the detected magnetic field. During the process of forming the key no tampering is detected by the circuit of Kommerling. The key is only used when the CPU requests access to the memory and the key is then used to decrypt data from the memory (Kommerling, col. 6, lines 4-16). Therefore, the combination of Sano and Kommerling does not teach detecting that the package has been tampered with in response to a change in the magnetic state.



2. The proposed combination of references is improper

The Examiner, on pages 13-14 of the Examiner's Answer ("Response to Argument" section), has attempted to address the arguments presented in the Applicant's Appeal Brief with respect to the Section 103 rejections of claim 1. However, the response in the "Response to Argument" section of the Examiner's Answer does not in fact address the arguments presented in the Applicant's Appeal Brief. The response in the Examiner's Answer states that the fact that Sano and Kommerling use the magnetic fields for different purposes is not vital to making it obvious to combine. However, Appellant maintains that the articulated reasoning for the proposed combination of cited references is not based on a rational underpinning. Specifically, the articulated reasoning lacks a rational underpinning because Sano teaches away from the suggested modification. Furthermore, the proposed combination would render the prior art unsatisfactory for its intended purpose.

The Appellant's argument presented in the Appeal Brief clearly states that the cited references teach and require different types of magnets that are not interchangeable. In particular, Sano teaches a type of magnet that can not be replaced by the magnet taught by Kommerling. Sano teaches a detachable magnet (Sano, Abstract), whereas Kommerling requires permanent magnets bonded to an encapsulation layer and Hall effect sensors (Kommerling, Fig. 5B and col. 10, lines 44-58). A magnet bonded to the encapsulation material is not detachable. Therefore, the articulated reasoning of the Final Office Action is not rational because Sano teaches away from a permanent magnet bonded to an encapsulation layer and Hall effect sensors, as taught by Kommerling.

Furthermore, the proposed combination would render the prior art unsatisfactory for its intended purpose. An object of the Sano reference is to set an operating mode of a circuit without installing a proprietary terminal by using a detachable magnet, a Hall element, and a mode changeover circuit (Sano, Abstract). Sano further teaches a device to instruct a mode changeover when a Hall element detects a magnetic field from a detachable magnet (Sano, Abstract). The Final Office Action attempts to modify Sano with the epoxy resin matrix, the magnets, and the Hall elements of Kommerling (Kommerling, Fig. 5B and col. 10, lines 44-58). Appellant submits that such a modification would render the Sano reference inoperable for its stated purpose. The Sano reference teaches that a magnet is installed on the outside of the package so as to be freely detachable and further teaches that a mode changeover circuit instructs a mode changeover when a magnetic field is detected by the Hall element (Sano, Abstract).

Appellant submits that if the detachable magnet of Sano is replaced with the epoxy resin matrix and permanent magnets of Kommerling, the device of Sano would not be able to change the operating mode of the circuit because the resin and magnets would be permanently attached to the integrated circuit, as taught by Kommerling.

#### Dependent claims 3-7

In the Appeal Brief filed previously, Appellant specifically argued that claims 3-7 are patentable over Sano and Kommerling because the reasoning presented in the Final Office Action is insufficient to support a *prima facie* case of obviousness. The Examiner, on page 14 of the Examiner's Answer ("Response to Argument" section), has apparently attempted to address the arguments presented in the Applicant's Appeal Brief with respect to the Section 102 rejection of claim 1. The response in the Examiner's Answer states that the mode changeover circuit of Sano allegedly includes a comparison circuit with a reference voltage. The Examiner therefore concluded that Sano teaches comparing the detected magnetic state with a reference state and detecting tampering with the package in response to the detected magnetic state being different than the reference state. However, without admitting that Sano teaches the aforementioned limitations, Appellant submits that the argument presented in the Appeal Brief specifically relates to Kommerling teaching away from the proposed combination. Appellant submitted in the Appeal Brief previously filed that the reasoning presented in the Final Office Action for the proposed combination of Sano and Kommerling is insufficient to support a *prima facie* case of obviousness for claim 3 (Appeal Brief, pages 15-16). However, the response in the Examiner's Answer does not address this argument and the Examiner has failed to support a *prima facie* case of obviousness. For reference, the argument is presented below.

In regard to claim 3, Appellant respectfully submits that claim 3 is patentable over the combination of Sano and Kommerling because the combination of cited references is improper. Examiner asserts that the mode changeover circuit of Sano inherently includes a comparison circuit with a reference voltage. Claim 3 has been rejected under 35 U.S.C. 103 as being unpatentable over the combination of Sano and Kommerling. However, the reasoning presented in the Final Office Action for the proposed combination of Sano and Kommerling is insufficient to support a *prima facie* case of obviousness for claim 3. Kommerling teaches away from storing a reference state as Kommerling teaches that an initial key is not held within a register so that the initial key can not be accessed through



stripping away the coating. The only key present in the system is the key formed from the detected property outputs (Kommerling, col. 2, lines 50-54). Therefore, the key formed from the detected property outputs can not be compared to the initial key because the initial key is only known to the manufacturer. Having the initial key stored in the system of Kommerling would pose a security risk as the initial key could otherwise be accessed when stripping away the coating. Therefore, Kommerling teaches away from storing a reference state. Accordingly, Appellant respectfully asserts that claim 3 is patentable over Sano and Kommerling because the proposed combination of cited references is insufficient to support a *prima facie* case of obviousness for claim 3.

In regard to claim 4, Appellant respectfully submits that claim 4 is patentable over the combination of Sano and Kommerling because the proposed combination of cited references is insufficient to support a *prima facie* case of obviousness for claim 4, as described above with reference to claim 3. Claim 5 is dependent on claim 4 and is patentable over Sano and Kommerling at least for the reasons stated above with reference to claim 4.

In regard to claims 6 and 7, Appellant respectfully submits that claims 6 and 7 are patentable over the combination of Sano and Kommerling because the proposed combination of cited references is insufficient to support a *prima facie* case of obviousness for claims 6 and 7, as described above with reference to claim 3.

C. Claim 13 is patentable over the combination of Kommerling and Fujiki at least based on an allowable base claim

Appellant respectfully submits that dependent claim 13 is patentable over the cited references based on an allowable base claim. Additionally, claim 13 may be allowable for further reasons.

D. Claims 17-18 are patentable over the combination of Kommerling and Double at least based on an allowable base claim

Appellant respectfully submits that dependent claims 17-18 are patentable over the cited references based on an allowable base claim. Additionally, claims 17-18 may be allowable for further reasons.

#### **IV. CONCLUSION**

For the reasons stated above, claims 1 and 3-20 are patentable over the cited references. Thus, the rejections of claims 1 and 3-20 should be withdrawn. Appellant respectfully requests that the Board reverse the rejections of claims 1 and 3-20 under 35 U.S.C. § 102(e) and 35 U.S.C. § 103(a) and, since there are no remaining grounds of rejection to be overcome, direct the Examiner to enter a Notice of Allowance for claims 1 and 3-20.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-4019** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-4019** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

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